CU 5292 Electromagnetic Interference and Compatibility

Important 13 Mark Questions

Unit I

1. Explain the significance of the sources and victims of EMI.
2. Outline the various issues of EMC and their impact.
3. Compare conducted and radiated EMI based on source, environment, medium, and equipment.
4. Explain the natural sources of EMI.
5. What is ESD? Explain how ESD is managed and how MOSFETS are handled against ESD?

Unit II

1. Explain the transient sources and automotive transients.
2. List out the different coupling mechanisms and explain any two of the coupling scheme.
3. How do you divide Conducted Emissions into common mode and differential mode currents? Explain.
4. The difference in voltage between two ground systems results in a Potentially serious EMI problem. Justify this statement.
5. What is differential mode coupling? How does radiated coupling and transient coupling very from DMC?

Unit III

1. Discuss the grounding strategies employed for a large system.
2. State the need for mitigating EMI and explain any two techniques for the mitigation process.
3. Describe about shielding effectiveness for near-field sources.
4. Explain chemical salting technique, various procedures for cable routing and with neat diagram explain bonding.
5. Explain about EMI signal control technique and cable routing.

Unit IV

1. Summarize the role of national and international EMI standardizing organizing companies.
2. Explain the EMI standards used for residential and industrial environment.
3. How does the FCC further break the digital device class of products?
4. The intent of the conducted emission limits is to restrict the noise current passing out through the products ac power cord. Justify this statement.
5. How do motherboard designs and performance models help for better performance?

Unit V

1. Describe open field EMI testing process.
2. Explain the measurements using EMI Rx and spectrum analyzer with a neat sketch.
3. How can spectrum analyzers display the magnitude spectrum for periodic signals? Explain the use of quasi-peak detector in spectrum analyzers.
4. How does the multiple-reflection factor reduce the shielding effectiveness?
5. What is the process of EMI standards and give different types of standards that followed in different countries?